

## **REMARKS**

Applicants appreciate the examination of the present application as evidenced by the Office Action dated December 23, 2008 (hereinafter, "the Office Action"). Claims 1 and 4-69 are pending in the present application, Claims 7-10 and 16-69 are withdrawn from consideration and Claims 1, 4-6 and 11-15 stand rejected. Applicants respectfully request further consideration of the application in view of the amendments above and the comments that follow to address the issues raised in the Office Action. Moreover, Applicants respectfully request reconsideration and rejoinder of the withdrawn claims as appropriate.

### **I. Claim Rejections Under 35 U.S.C. §112**

Claims 1, 4-6 and 11-15 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. *See* Office Action, page 2. More specifically, the Office Action asserts that it is "unclear as to which of the two metal oxide elements recited in lines 3 and 6 of the claim is the metal oxide thin dielectric film." Office Action, page 2.

Applicants have amended Claim 1, as presented above, to clarify the recitations. Accordingly, Applicants respectfully submit that this rejection has been addressed, and Applicants respectfully request that this rejection be withdrawn. In the event that there are unresolved issues in view of the claim amendments, consistent with the provisions of the Manual of Patent Examining Procedure (MPEP) § 2173.02, Applicants respectfully request the Examiner to suggest claim language to Applicants to improve the clarity or precision of the language used to amend the claims.

### **II. Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 4-6 and 11-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0040196 to Lim et al. (hereinafter, "Lim et al.") in view of U.S. Patent Application Publication No. 2001/0040905 to Stamm et al. (hereinafter, "Stamm et al."). The Office Action states, "It would have been obvious to one having ordinary skill in the art at the time the invention was made to form Lim

et al.'s lanthanum oxide having oxygen deficiency in order to improve the device characteristics. Note that substitution of materials is not patentable even when the substitution is new and useful." Office Action, page 3.

Applicants note that in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference or combination of references must teach or suggest all the claim recitations. *See In re Wilson*, 165 U.S.P.Q. 494 (C.C.P.A. 1970). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings in order to arrive at the claimed invention. *See In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *In re Fine*, 837 F.2d at 1074; *In re Skinner*, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Int. 1986). Third, there must be a reasonable expectation of success. *See* M.P.E.P. § 2143. Applicants respectfully submit that the Office Action fails to establish a *prima facie* case of obviousness.

The Office Action alleges that "Stamm et al. teach that layer 104 comprises an oxygen-deficient metal oxide film comprising  $\text{La}_2\text{O}_x$  wherein  $0 < x < 3$ ." Office Action, page 3. Applicants respectfully disagree. Instead, Stamm et al. describes  $\text{La}_2\text{O}_2\text{S:Eu}$  as a frequency converting coating 104 in paragraph [0033].  $\text{La}_2\text{O}_2\text{S:Eu}$  is different and distinct from " $\text{La}_2\text{O}_x$  wherein  $0 < x < 3$ " as recited in Claim 1 of the present application. Accordingly, Stamm et al. fails to cure the deficiency of Lim et al., which as the Office Action acknowledges on page 3, does not teach forming an oxygen-deficient metal oxide film comprising  $\text{La}_2\text{O}_x$  wherein  $0 < x < 3$ .

Moreover, one of ordinary skill in the art would not be motivated to combine Lim et al. and Stamm et al. The deficiency of Lim et al. is noted above. Yet, on page 3 of the Office Action, the Office Action states that it would have been obvious to one having ordinary skill in the art at the time the invention was made to form Lim et al.'s lanthanum oxide having oxygen deficiency in order to improve the device characteristics."

Thorough consideration of Lim et al. reveals that this reference provides a method of forming insulation layers in semiconductor devices. Stamm et al. describes the frequency

converting coating 104 of a light detector that functions to absorb photons of the incident ultraviolet light 106 and re-emitting photons of longer wavelength light 108, not a dielectric film for a semiconductor device. *See* paragraphs [0033] through [0035] of Stamm et al. As would be concluded by one of ordinary skill in the art, considering these references in combination renders the references inoperable for their intended purposes. There clearly would be no motivation for one of ordinary skill in the art to utilize the frequency converting coating 104 of Stamm et al. instead of the insulating layer of Lim et al.

Thus, there is no motivation to combine the references. However, even if combined, the combination of Lim et al. and Stamm et al. fails to teach or suggest the recitations of the pending claims where neither reference provides  $\text{La}_2\text{O}_x$  wherein  $0 < x < 3$ , as recited in the pending claims.

Accordingly, Applicants respectfully submit that Claims 1, 4-6, and 11-15 are not obvious in view of Lim et al. and Stamm et al., and Applicants respectfully request that this rejection be withdrawn.

In re: Park et al.  
Serial No.: 10/828,596  
Filed: April 21, 2004  
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### CONCLUSION

Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any small matters outstanding of resolution, the Examiner is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,

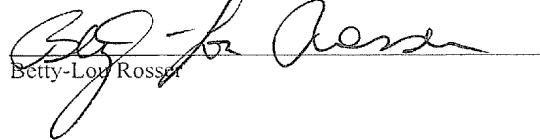


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